

WHAT IS CLAIMED IS:

1. A semiconductor laser driving apparatus for modulating an output laser beam of a semiconductor laser on the basis of a modulation signal and outputting the modulated laser beam, comprising:

a first semiconductor laser;

first driving means for controlling a first drive current of said first semiconductor laser on the basis of the output laser beam of said first semiconductor laser so that an emission light amount of said output laser beam becomes almost constant;

a second semiconductor laser thermally coupled with said first semiconductor laser; and

second driving means for driving said second semiconductor laser by a second drive current obtained by subtracting a current corresponding to the modulation signal for modulating the output laser beam of said second semiconductor laser from a current having a correlation with said first drive current.

2. An apparatus according to claim 1, further comprising a current mirror circuit for supplying a current corresponding to said first drive current.

3. An apparatus according to claim 2, wherein the current corresponding to said second drive current is a current having a current value which is equal to or larger than said first drive current.

4. An apparatus according to claim 3, wherein the

current corresponding to said second drive current is a current having a current value which is almost twice as large as said first drive current.

5. An apparatus according to claim 1, wherein said first semiconductor laser and said second semiconductor laser are serially connected and said second driving means drives said second semiconductor laser by the second drive current obtained by subtracting the current corresponding to the modulation signal for modulating the output laser beam of said second semiconductor laser from a current outputted from said first semiconductor laser.

6. An apparatus according to claim 1, wherein electrical characteristics of said first semiconductor laser and said second semiconductor laser are almost equal.

7. An apparatus according to claim 1, wherein said first semiconductor laser and said second semiconductor laser are arranged on a same mounter and thermally coupled.

8. An apparatus according to claim 1, further comprising:

temperature detecting means for detecting a temperature of said first semiconductor laser and a temperature of said second semiconductor laser; and

temperature control means for controlling the temperatures of said first and second semiconductor lasers on the basis of a temperature detection result by said temperature detecting means.